

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

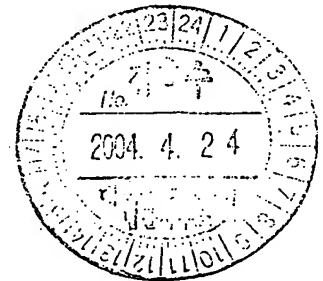
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference HOSAN-220110	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. <b>PCT/KR2002/002416</b>	International filing date (day/month/year) 23 DECEMBER 2002 (23.12.2002)	Priority date (day/month/year) 24 DECEMBER 2001 (24.12.2001)
International Patent Classification (IPC) or national classification and IPC <b>IPC7 A61K 7/20</b>		
Applicant JUNG, Choong-Hyun		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
- ☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
- These annexes consist of a total of        sheets.

## 3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application



Date of submission of the demand 21 MAY 2003 (21.05.2003)	Date of completion of this report 19 APRIL 2004 (19.04.2004)
Name and mailing address of the IPEA/KR Korean Intellectual Property Office	Authorized officer

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/KR2002/002416

## I. Basis of the report

### 1. With regard to the elements of the international application:\*

- ☒ the international application as originally filed
- ☐ the description:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the claims:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, as amended (together with any statement) under Article 19  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the drawings:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

### 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

### 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

### 4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheet \_\_\_\_\_

### 5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed." and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

# INTERNATIONAL PRELIMINARY EXAMINATION

International application No.

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## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Claims	1-9	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-9	NO
Industrial applicability (IA)	Claims	1-9	YES
	Claims		NO

### 2. Citations and explanations (Rule 70.7)

The present invention relates to a composition of dentrifice for tooth bleaching and preventing dental caries and periodontal diseases.

The following documents from the PCT International Search Report have been considered for the purpose of this report:

D1: US 5122365 A (NATURAL WHITE INC) 16 JUNE 1992

D2: US 5000942 A (LIBIN BARRY M) 19 MARCH 1991

The following documents are new citations which were not cited in the ISR:

D3: KR 2001-0103344 (LG CI) 23 NOVEMBER 2001

D4: KR 1998-0702434 (DIAMOND WHITE A.V.V.) 15 JULY 1998

D1 discloses a system for whitening human teeth comprising specified conditioning mouth rinse, viscous bleaching gel including hydrogen peroxide and a viscous polishing composition.

D2 relates to an oral hygiene composition of magnesium and calcium peroxides for slow release of active oxygen to whiten teeth and destroy bacteria.

D3 discloses an oral whitening composition for bleaching teeth comprising a first paste containing peroxides selected from hydrogen peroxide, calcium peroxide and urea peroxide and a second paste containing phosphates in a dual container with a partition or separate containers.

D4 relates to teeth whitening paste or gel including sodium hypochlorite(NaOCl) to control periodontal diseases.

(Continued in the Supplemental Box)

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

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## Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of:

### (1) Novelty

None of the prior art documents describe a dentifrice composition for bleaching teeth comprising a first paste containing peroxides and a second paste containing chloric acid ion, wherein the first paste and the second paste are mixed in the ratio of about 1:1 by weight when the composition is used from a dual container with a partition or separate containers. Therefore, the subject matter of claims 1 to 9 is novel (Article 33(2) PCT) because the above cited prior art documents do not disclose the second paste containing chloric acid ion.

### (2) Inventive Step

In view of D3, a skilled person in the art could think of such an oral whitening composition for bleaching teeth comprising a first paste containing peroxides selected from hydrogen peroxide, calcium peroxide and urea peroxide and a second paste containing phosphates, wherein the first paste and the second paste are filled into a dual container with a partition or separate containers. According to D4, a skilled person in the art could expect teeth whitening paste or gel comprising sodium hypochlorite (NaOCl) as a catalyst. Furthermore, the present invention does not show a surprising effect over the inventions of the prior art documents. Therefore, the present invention is considered to be a simple combination of the inventions of the prior art documents D3 and D4, and consequently an inventive step cannot be acknowledged for the subject matter of claims 1 to 9 (Article 33(3) PCT).

### (3) Industrial Applicability

The subject matter of claims 1 to 9 meets the requirement of Article 33(4) PCT.